

## ABSTRACT

A data structure depicting unicast queues comprises a Structure Pointer memory for storing pointers to a location in memory of a segment of a packet associated with a respective queue. A Structure Pointer points to a record in the Structure Pointer memory associated with a successive segment, and a packet indicator indicates whether the segment is a first and/or a last segment in the packet. A Head & Tail memory stores an address in the Structure Pointer memory of the first and last packets in the queue, and a free structure memory points to a next available memory location in the Structure Pointer memory. To support multicast queues the data structure, a multiplicity memory stores the number of destinations to which a respective queue is to be routed. A scheduling method and system using such a data structure are also described.